

Orion Weekly Summary



Week ending June 28, 2008

Countdown to Pad Abort-1: 166 Days



Pad Abort-1 Crew Module Integration at Dryden Flight Research Center

The Pad Abort-1 Forward Bay Cover

continued final inspections and outer mold line scan in preparation for delivery to Dryden Flight Research Center (Photo Left).

Installation of Crew Module to Separation Ring retention/release mechanism is complete. The secondary tension tie assemblies were mounted into the SepRing frame.



The Launch Abort System #1 (LAS-1) Abort Motor for Pad Abort-1 completed cure and had its core successfully popped June 24. Pop loads were less than those from the ST-1 motor and the final propellant hardness was just below that of ST-1. The LAS-1 Abort Motor loaded case X-ray inspection is complete.



The LAS Jettison Motor (JM) Development Motor #2 (DM-2) shroud was delivered to Aerojet and is in acceptance inspection. The shroud is the last piece of hardware needed to assemble the JM DM-2 for test.

The preparations for JM DM-2 static test are on pace for testing to occur July 16 at ATK in Sacramento.

The Jettison Motor and igniter for DM-2 have completed shock and vibe testing. X-ray imaging showed no defects in the propellant grain structure. Aerojet has added cold conditioned motor X-ray imaging to DM-2. The motor was conditioned to 19 degrees F during a 31-hour cold-soak, then four X-rays taken to inspect for debonding (one X-ray at each 90 degrees of motor rotation). After cold-soak X-ray, the igniter was installed, the installation leak checked, and the shroud assembled around the motor.

The LAS Abort Motor manifold 1 to be used for the Static Test #1 (ST-1) was shipped to ATK.

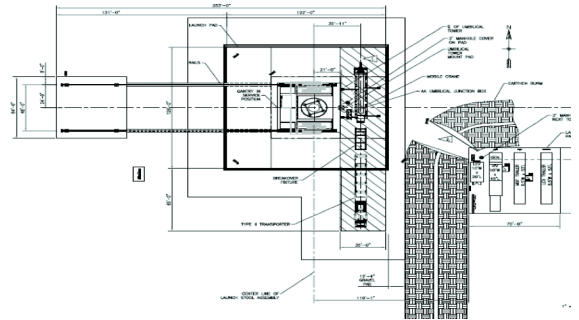
The Abort Motor ST-1 static test firing is scheduled for September 25. The test stand, data acquisition systems, video, control systems, and supports systems are ready. Cameras are awaiting one mounting point and instrumentation cabling. The ST-1 manifold activities remain on the critical path.

Orbital Sciences Corp conducted the Abort Test Booster (ATB) PDR 24-25 June in Chandler AZ. The ATB consists primarily of a Peacekeeper first stage SR118 motor, a robust thrust reaction structure which provides interfaces to the SR118 and the flight test article (FTA), and other support systems that will be tailored to each Ascent Abort flight test. This review precedes the mid-July Periodic Technical Review #2 for Ascent Abort #1 flight test.

White Sands Missile Range (WSMR) Test Facilities revised Launch Pad Gantry construction schedule has been approved. The gantry construction will be completed by May 26, 2009 to support current schedule for Ascent Abort #1 flight test. The concrete pour for the 12 inch thick concrete East portion of the Launch Pad, adjacent to the central Launch Pad area is complete.



The Abort Test Booster SR-118 Elevated Rail Set was delivered and placed in the Final Integration and Test Facility at WSMR (Photos below).



Orion Production and Operations Facilities

Steel framing for the Operations and Checkout (O&C) Airlock wall arrived this week at KSC and was installed in the low bay area (Photo top right).

Construction continues in the Michoud Assembly Facility in support of Orion Production:

- Universal Weld System 2 Site Prep (Photo bottom right).
- Tooling relocation:
 - Initiated power installation for newly installed crane rails
 - Continue fencing, electrical and mechanical utility installation
 - Lighting installation under mezzanine is complete.

Completed the planned Phenolic Impregnated Composite Ablator (PICA) alternate gap and enthalpy testing at the Ames Research Center Interaction Heating Facility (IHF) arcjet facility. Additional PICA alternate gap testing is scheduled to begin in the ARC Aerodynamic Heating Facility (AHF) arcjet facility in mid-August. Arcjet testing of simulated micrometeoroid impacted test articles will start around 14 July in the ARC Panel Test Facility (PTF). Pathfinder testing of undamaged PICA will precede this by about 2 weeks.

Exploration Electrical Systems Test (EEST) Facility layout plans are in work to define the power requirements for the EEST lab. The installation of the raised floor was complete (Photos left). This facility will be ready to begin early integrated power system testing in FY09.

